Datasheet

Cat. No. PM2004

Recombinant Mouse IL-3, Tag Free

Information

Accession #	P01586
Alternate Names	Hematopoietic growth factor; IL3; IL-3; interleukin 3 (colony-stimulating factor, multiple); interleukin-3
Source	Human embryonic kidney cell, HEK293-derived mouse IL-3 protein
Protein sequence	Asp33-Cys166
M.Wt	15.1 kDa
Appearance	Solution protein
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. - 3 years from date of receipt, -20 to -70°C as supplied.
Concentration	0. 2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	The EC50 for this effect is 3-12 pg/mL. Measured in a cell proliferation assay using NFS-60 mouse myelogenous leukemia lymphoblast cells.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

Interleukin-3 (IL-3) is a pleiotropic factor produced primarily by activated T cells that can stimulate the proliferation and differentiation of pluripotent hematopoietic stem cells as well as various lineage committed progenitors. In addition, IL-3 also affects the functional activity of mature mast cells, basophils, eosinophils and macrophages. Because of its multiple functions and targets, it was originally studied under different names, including mast cell growth factor P-cell stimulating factor, burst promoting activity, multi-colony stimulating factor, thy-1 inducing factor and WEHI-3 growth factor. In addition to activated T cells, other cell types such as human thymic epithelial cells, activated mouse mast cells, mouse keratinocytes and neurons/astrocytes can also produce IL-3. At the amino acid sequence level, mature human and mouse IL-3 share only 29% sequence identity. Consistent with this lack of

homology, IL-3 activity is highly species-specific and human IL-3 does not show activity on mouse cells.IL-3 exerts its biological activities through binding to specific cell surface receptors. The high affinity receptor responsible for IL-3 signaling is composed of alpha and beta subunits. The IL-3R alpha is a member of the cytokine receptor super family and binds IL-3 with low affinity. Two distinct beta subunits, AIC2A (beta IL-3) and AIC2B (beta c) are present in mouse cells. beta IL-3 also binds IL-3 with low affinity and forms a high affinity receptor with the alpha subunit. The beta c subunits does not bind any cytokine but forms functional high affinity receptors with the alpha subunit of the IL-3, IL-5 and GM-CSF receptors. Receptors for IL-3 are present on bone marrow progenitors, macrophages, mast cells, eosinophils, megakaryocytes, basophils and various myeloid leukemic cells.

Reference

[1]. Yokota, T. et al., 1984, Proc. Natl. Acad. Sci. USA 81:1070.

[2]. Fung, M.C. et al., 1984, Nature 307:233.

[3]. Miyatake, S. et al., 1985, Proc. Natl. Acad. Sci. USA 82:316.